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Copy ___ of ___

15 February 1972

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LESSON TITLE : Aero Medical Programs

DIVISION : Aero Medical Staff/OSA

INSTRUCTORS :

[Redacted]

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DATE TIME PLACE : 1 March 1972/ 1330-1600 - Control Center

[Redacted]

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PART II - OVERVIEW

1. LESSON OBJECTIVE: The objective of this lesson is for each student to become familiar with programs of the Aero Medical Staff/OSA. Specifically, the student will become familiar with the general physiological requirements for life-support equipment, the life-support system developed for and used in Project IDEALIST, and the

[Redacted] Training Program for project pilots.

2. INSTRUCTIONAL AIDS: Vu-Graph Slides and overhead projector, 35 mm Slides and Projector, 16 mm Movie and Projector.

3. TIME REQUIRED: 2 hours 30 minutes

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4. PLAN OF PRESENTATION: The instructor will introduce the lesson by describing the overall organization and function of the Aero Medical Staff. Life-Support Programs will be discussed in Detail by describing the physiological requirements for life-support equipment, i. e., total barometric pressures, altered partial pressures, thermal balance, and protection during emergency ejections. In order to correlate physiological requirements with equipment in use, the life-support system as used in the U-2R will be discussed in detail. Finally, an overview of the

Training Program and related specialized equipment will be presented:

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PART II - TEACHING GUIDE

A. INTRODUCTION

1. Aero Medical Staff:
 - a. Organization and Function
 - b. Aircrew Selection
 - c. Maintenance
 - d. Resistance to Interrogation (RTI)

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2. Life-Support Program Overview:

Equipment types and categories

- a. Aircraft Systems
- b. Aircrew Systems
- c. Training

B. Physiological Requirements for Life-Support Equipment.

1. Total Barometric Pressure

- a. Mechanical Effects of Pressure Change
 - (1) Areas affected
 - (2) Prevention/Protection

2. Altered Partial Pressures

- a. Decompression sickness
 - (1) Areas affected
 - (2) Protection/Prevention
- b. Boiling of Body Fluids
 - (1) Areas affected
 - (2) Protection
- c. Hypoxia
 - (1) Cause and Effects
 - (2) Protection

3. Thermal Balance

- a. Protection

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a. Protection (cont'd)

(1) From heat

(2) From cold

4. Escape Provisions

a. Hazards

(1) Decision

(2) Decompression

(3) Separation

(4) Windblast

(5) Deceleration

(6) Spin

(7) Hypoxia

(8) Frostbite

(9) Parachute Opening Shock

(10) Parachute Landing and Canopy Release

(11) Survival

C. DESCRIPTION OF U-2R LIFE-SUPPORT EQUIPMENT

1. Oxygen System

2. Emergency Oxygen System

3. Ejection System

4. Pilot's Protective Assembly (PPA)

5. Improvements

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D. DESCRIPTION OF AMS/OSA [REDACTED] TRAINING PROGRAM

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1. Purpose of [REDACTED] Training

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2. [REDACTED] Operational Qualification Training

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3. [REDACTED] Annual Training Requirement

4. Types of Training, Areas, and Specialized
Techniques/Equipment

a. Academic Training

b. Local Area Training

c. Field or Special Area Training

5. Evaluation of Survival Equipment/Techniques

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[REDACTED]
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